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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,308	01/27/2004	Kas Kasravi	57391/9 (50-02-032)	1219

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KRAMER LEVIN NAFTALIS & FRANKEL LLP  
INTELLECTUAL PROPERTY DEPARTMENT  
1177 AVENUE OF THE AMERICAS  
NEW YORK, NY 10036

EXAMINER
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SAINT CYR, LEONARD

ART UNIT	PAPER NUMBER
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2626

NOTIFICATION DATE	DELIVERY MODE
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02/15/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

klpatent@kramerlevin.com

<b>Office Action Summary</b>	Application No. 10/766,308	Applicant(s) KASRAVI ET AL.	
	Examiner Leonard Saint-Cyr	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11/23/07.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 3, 6, 7, 10 - 14, 16 - 24, and 26 - 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 3, 6, 7, 10 - 14, 16 - 24, and 26 - 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 11/23/07, regarding claims 1, 2, 3, 6, 7, 10 - 14, 16 - 24, and 26 - 31 have been fully considered but they are not persuasive.

Applicant argues that Gillis does not teach computing a quantified representation of the semantic content of each document and comparing the quantified representations using a defined algorithm or metric (Amendment, page 14).

The examiner disagrees, Gillis teaches identifying analogous structures in semantically distant knowledge domains by creating abstract representations of content (vectors) which are characteristic of a given domain of knowledge (source domain) and searching for similar representations in semantically distant (target) domains (col.1, lines 15 – 20). Creating vectors, which are characteristic of a given domain of knowledge (source domain) and searching for similar representations in semantically distant (target) domains, since vectors are created in source and target domains in order to identify analogous structures in both domains.

Applicant argues that Gillis does not teach a semantic vector that has at least: a word or phrase appearing in the document or a synonym of said word or phrase; a weighting factor associated with said word or phrase or synonym; and a frequency value (Amendment, page 15).

The examiner disagrees, Gillis teaches computing a set of term vectors (col.11, lines 36, and 37). Computing term vectors implies semantic vector that has a word or phrase appearing in the document or a synonym of said word or phrase, since Gillis defines terms as words or phrases.

2. Applicant's arguments, see applicant's argument, page 14, filed 11/23/07, with respect to the newly independent claims 33 - 35 have been fully considered and are persuasive.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 2, 3, 6, 7, 10 - 14, 16 - 24, and 26 - 31 are rejected under 35 U.S.C. 102(a) as being anticipated by Gillis (US Patent 6,523,026).

As per claims 1, Gillis teaches comparing semantic content of two or more documents, comprising:

accessing two or more documents ("source and target domains"); performing a linguistic analysis on each document ("computing a set of vectors"; col.10, lines 9 – 17); col.11, lines 36 – 40);

outputting a semantic vector for each document, said semantic vector having multiple components, wherein each component of said semantic vector has at least: a word or phrase appearing in the document or a synonym of said word or phrase; a weighting factor associated with said word or phrase or synonym; and a frequency value ("computing a set of term vectors"; col.11, lines 36, and 37; col.10, lines 18 - 20).

As per claim 2, Gillis further discloses that the linguistic analysis comprises sentence analysis ("sentence in the individual documents"; col.43, lines 43 – 46).

As per claim 3, Gillis further discloses that the sentence analysis comprises a syntactic analysis ("preferred stop list word include in the vectorization") and a semantic analysis ("semantic similarity"; col.39, lines 14 – 20; col.35, lines 4 – 6).

As per claim 6, Gillis further discloses that each component of the semantic vector can have multiple dimensions ("n dimensional space"; col.39, line 63 – col.40, line 1).

As per claim 7, Gillis further discloses that each component of the semantic vector further comprises a subordinate concept value ("cable" is the subordinate concept of term "telecommunications"; col.51, lines 30 – 35).

As per claim 10, Gillis further discloses that some of the components of the semantic vector have {main term – subordinate term pairs} as their first value (“cable” and “telecommunications” are related term pairs, wherein cable is the subordinate term of telecommunications; col.51, lines 30 – 35).

As per claim 11, Gillis further discloses that the semantic vector is a multi-dimensional vector defined by the content of a semantic net (“n dimensional semantic space”; col.39, line 63 – col.40, line 1).

As per claim 12, Gillis further discloses that the content of the semantic net is augmented by relative weights, strengths, or frequencies of occurrence of the features within the semantic net (“frequency related weightings to term in the computation of summary vectors”; col.41, lines 40 - 46).

As per claim 13, Gillis further discloses that the output of said defined algorithm is a measure of at least one of semantic distance, semantic similarity, semantic dissimilarity, degree of patentable novelty and degree of anticipation (“semantic similarity”; col.4, lines 1 – 3).

As per claim 14, 23, 24, 26, and 27, Gillis teaches comparing two or more documents, by:

linguistically analyzing two or more documents("computing a set of vectors"; col.10, lines 9 – 17); col.11, lines 36 – 40);

generating a semantic vector associated with each document("semantic vectors"; col.39, lines 14 – 20); and

comparing the semantic vectors using a defined metric ("summary vectors to be compared"; col.39, line 19, and 20; col.42, lines 2, and 3);

wherein said metric measures the semantic distance between two documents as a function of the relative frequencies of common terms and of common {main term – subordinate term pairs} between the two documents ("semantically distant are individually represented at least 50 times"; col.48, lines 48 – 55; col.51, lines 30 – 35).

As per claim 16, Gillis further discloses that a common term between two documents includes two terms that are synonyms (col.11, line 8).

As per claims 17, 28, Gillis further discloses that one or more of said two or more documents are located using an autonomous software or 'bot program ("software programs"; col.10, lines 9 – 17; col.25, lines 57 – 67).

As per claims 18, and 29, Gillis further discloses automatically analyzes each document in a defined domain (source and target domains) or network by executing a series of rules and assigning an overall score to the document ("average of component values"; col.10, lines 9 – 17; col.41, line 66 –col.42, line 25).

As per claim 19, Gillis further discloses that all documents with a score above a defined threshold are linguistically analyzed ("generate term vectors and accept only records that match all the categories beyond some minimum threshold"; col.46, line 65 – col.47, line 11).

As per claims 20, and 30, Gillis further discloses that the semantic vector is a quantification of the semantic content of each document ("semantic vectors"; col.39, lines 14 – 20; col.1, lines 15 - 20).

As per claim 21, Gillis further discloses that the semantic vector can have multiple components, and each component can have multiple dimensions ("n dimensional semantic space"; col.39, line 63 – col.40, line 1).

As per claim 22, Gillis further discloses that each component of the semantic vector has a word or phrase appearing in the document or a synonym of said word or phrase (col.11, line 8);

a weighting factor associated with said word or phrase or synonym ; and a frequency value ("frequency related weightings to terms in the computation of summary vectors"; col.41, lines 40 – 43).



As per claim 31, Gillis further discloses that the output of said defined algorithm is a measure of at least one of semantic distance, semantic similarity, semantic dissimilarity, degree of patentable novelty and degree of anticipation ("semantic similarity"; col.4, lines 1 – 3).

### ***Allowable Subject Matter***

5. Claims 33 – 35 are allowed over the prior art. The following is an examiner's statement of reasons for allowance:

As to claim 33 – 35, Gillis does not teach or suggest that the defined metric is one of:  $\text{Sqrt} ( f_1^2 + f_2^2 + f_3^2 + f_4^2 + \dots + f_{(N-1)}^2 + f_N^2 ) / n * 100$ , wherein  $f$  is a difference in frequency of a common term between two documents and  $n$  is the number of terms those documents have in common; or  $\text{Sqrt}(\text{sum}((w-\text{Delta})^2 * w-\text{Avg})) / (\text{Log}(n)^3 * 1000)$ , wherein  $w-\text{Delta}$  is the difference in weight between two common terms,  $w-\text{Avg}$  is the average weight between two common terms, and  $n$  is the number of common terms, between two documents.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard Saint-Cyr whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

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number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS  
02/05/07



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